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MEMORANDUM-TO-FILE

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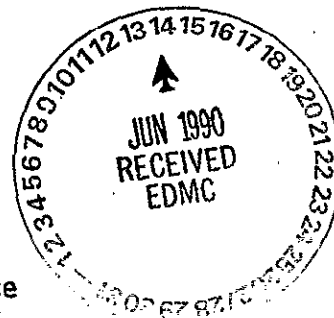
Laundry Facility Effluent Treatment
Project B-697

Issued by

Westinghouse Hanford Company

for the

Department of Energy-Richland Operations Office



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8/3/89
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10/10/89

1-11-90
Date

November 13, 1989

Memorandum-To-File

Subject: Project B-697, "Laundry Facility Effluent Treatment"

The attached environmental evaluation (EE) has been reviewed in the cognizant offices of the Department of Energy-Richland Operations Office. The following environmental impacts are documented, as indicated on the environmental checklist (The designations in parentheses correspond to the specific potential environmental impacts identified on the EE checklist, provided in Section 9.0 of the supporting EE).

1. Will the proposed project result in any gaseous discharge to the environment? (1.a.)

Construction activities will result in equipment exhaust emissions and some dust. Routine laundry operations result in minor amounts of radioactive emissions (calendar year 1988 monitoring data: $<9 \text{ E-07}$ curies of alpha and approximately 1 E-05 curies of beta). No additional emissions are anticipated as a result of the proposed project.

2. Will the proposed project result in any particulate or droplet releases to the environment? (1.b.)

Construction activities will result in the release of dust.

3. Will the proposed project result in any thermal discharges to the environment? (1.c.)

Construction equipment will release heat to the atmosphere.

4. Will the proposed project result in any liquid discharges to the environment? (2.a.)

The liquid effluent from the PEDF will continue to be discharged to the 216-W-LC crib.

5. Will the proposed project discharge heat to surface or subsurface water? (2.b.)

The liquid effluent from the PEDF may be above ambient temperature. However, no deleterious environmental impacts are anticipated from the additional heat.

6. Will the project generate a volume of waste for disposal? (3.d.)

Miscellaneous construction scrap will be generated. The scrap will be disposed of in the Central Landfill. Dried filter cake (containing filtered solids, oils and grease) from the wastewater treatment facility will be packaged and disposed of as low-level radioactive waste.

7. Will the proposed project be subject to any other federal, state, or local environmental regulations not otherwise addressed in this checklist? (4.a.)

The discharge of liquid effluents to the soil column is limited to liquids which are non-hazardous wastes pursuant to the Washington Administrative Code (WAC) 173-303, "Dangerous Waste Regulations".

Effluent Monitoring Plans, which will be written and issued prior to project completion or facility startup, are required by Westinghouse Hanford Company guidelines (Environmental Compliance Manual, WHC-CM-7-5).

8. Will the proposed project increase noise level? (4.b.)

Construction equipment will temporarily increase noise levels. Routine operation of the treatment system(s) will increase noise levels in the immediate work area.

9. Will the project require long-term commitment of nonrenewable resources? (4.g.)

Nonrenewable resources in the form of steel and other building materials represent a long-term commitment.

10. Will the proposed project require new utilities or modifications to existing utilities? (4.h.)

Minor modifications to existing utilities may be required for this project. Electrical power will be provided from existing sources. Ductwork installation will be required to use the PEDF heating, ventilation, and air conditioning (HVAC) system.

It has been determined that the potential environmental impacts that may result from this project are clearly insignificant within the context of the National Environmental Policy Act (NEPA) of 1969, as amended (Public Law 91-190, 42 United States Code 4321, et seq.). It is therefore, determined that this Memorandum-To-File is the appropriate level of NEPA documentation for this project.

ENVIRONMENTAL EVALUATION

PROJECT B-697

LAUNDRY FACILITY EFFLUENT TREATMENT

1.0 SUMMARY

This Environmental Evaluation (EE) addresses the potential environmental impacts from the proposed installation and operation of a system(s) that will prevent the Protective Equipment Decontamination Facility (PEDF) liquid discharges from causing plugging of the 216-W-LC crib by removal of particulates in combination with oils and greases. The system will also reduce the concentrations of oils and greases in the liquid effluent.

As shown on the attached Environmental Checklist, there are several potential environmental impacts related to the construction and operation of the proposed facility. These potential impacts are clearly insignificant and do not contribute synergistic effects to Hanford Site activities. The proposed action, as discussed in this EE, clearly does not constitute a major federal action significantly affecting the quality of human environment within the context of the National Environmental Policy Act (NEPA) of 1969, as amended (Public Law 91-190, 42 United States Code, 4321 et seq.). It is recommended, therefore, that no additional environmental documentation be prepared. This EE serves as supporting documentation to the requirement for a "Memorandum-to-File" as described in Department Of Energy Guidelines (45 FR 20694).

2.0 PROJECT DESCRIPTION

The proposed project will provide a system(s) which will be applied to the PEDF that will prevent the 216-W-LC crib from plugging. The system will also further reduce concentrations of oils and greases in the wastewater stream going to the crib until the decontamination laundry facility (DLF, Project B-503) is operational. The PEDF, Building 2724-W in the 200 West Area of the Hanford Site, was constructed in the early 1950's. The system(s) components will be proven, off-the-shelf technology.

The system(s) will have several minimum requirements. The project will provide:

- o Positive filtration of all wastewater from the PEDF to a particulate size corresponding to a minimum of a 100 mesh screen size (400 micrometers).
- o Removal of oils and greases to the extent that is economically feasible for the design life of the project (minimum of 5 years).

- o Adequate facilities and equipment to prepare the filtered substances for disposal as low level radioactive wastes.
- o No creation of hazardous wastes. The secondary waste stream (concentrated solids) will not exceed regulatory guidelines.
- o Liquid effluent monitoring and sampling consistent with applicable environmental regulations.

The wastewater from the existing PEDF has been shown to have toxic compound concentrations far below the Washington Department of Ecology limits for Dangerous Waste (Aldrich 1987, Metcalf 1985). Full priority pollutant scans were run on the laundry wastewater. The measured pollutant concentrations were compared with Dangerous Waste limits (Washington Administrative Code [WAC] 173-303, "Dangerous Waste Regulations"). The concentrations were far below the allowable limits.

The estimated cost of this Landord Programs sponsored project is approximately 700,000 dollars, and the project is a FY 1989 General Plant Project.

3.0 AFFECTED ENVIRONMENT

The proposed project site is located in the 200 West Area, which is part of the approximately 560 square mile semiarid Hanford Site in southeastern Washington (Figures 1 and 2). The site is approximately ten miles from the Columbia River, the nearest natural watercourse. The nearest population center is the city of Richland, about 25 miles to the south.

The 200 Areas plateau is not located in the 100-year or 500-year flood plains. Approximately 300 feet of unconsolidated geologic materials separate the proposed site from the water table. The region is categorized as one of low to moderate seismicity.

The area has a mild climate with annual precipitation of six to seven inches, and infrequent periods of high winds (up to 80 miles per hour). Tornados are extremely rare. Only one tornado has been recorded in the region, and the probability of a tornado hitting any given facility on-site is estimated at ten chances in one million during any given year.

The sagebrush/cheatgrass-Sandberg's bluegrass vegetative community dominates the Hanford Site. The important shrubs are big sagebrush and rabbitbrush, while the understory is primarily composed of cheatgrass and Sandberg's bluegrass.

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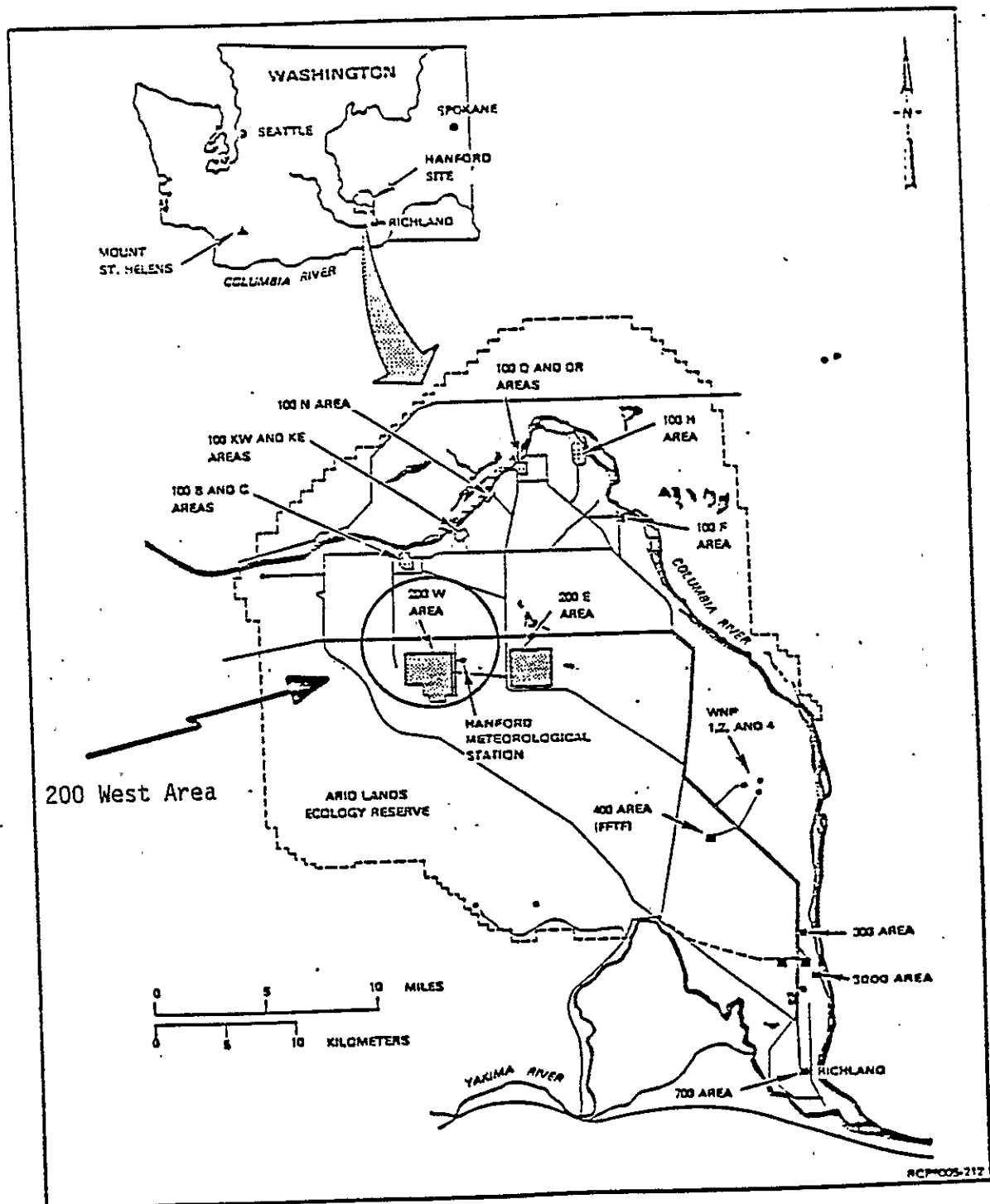


Figure 1. HANFORD SITE SHOWING AREA LOCATIONS.

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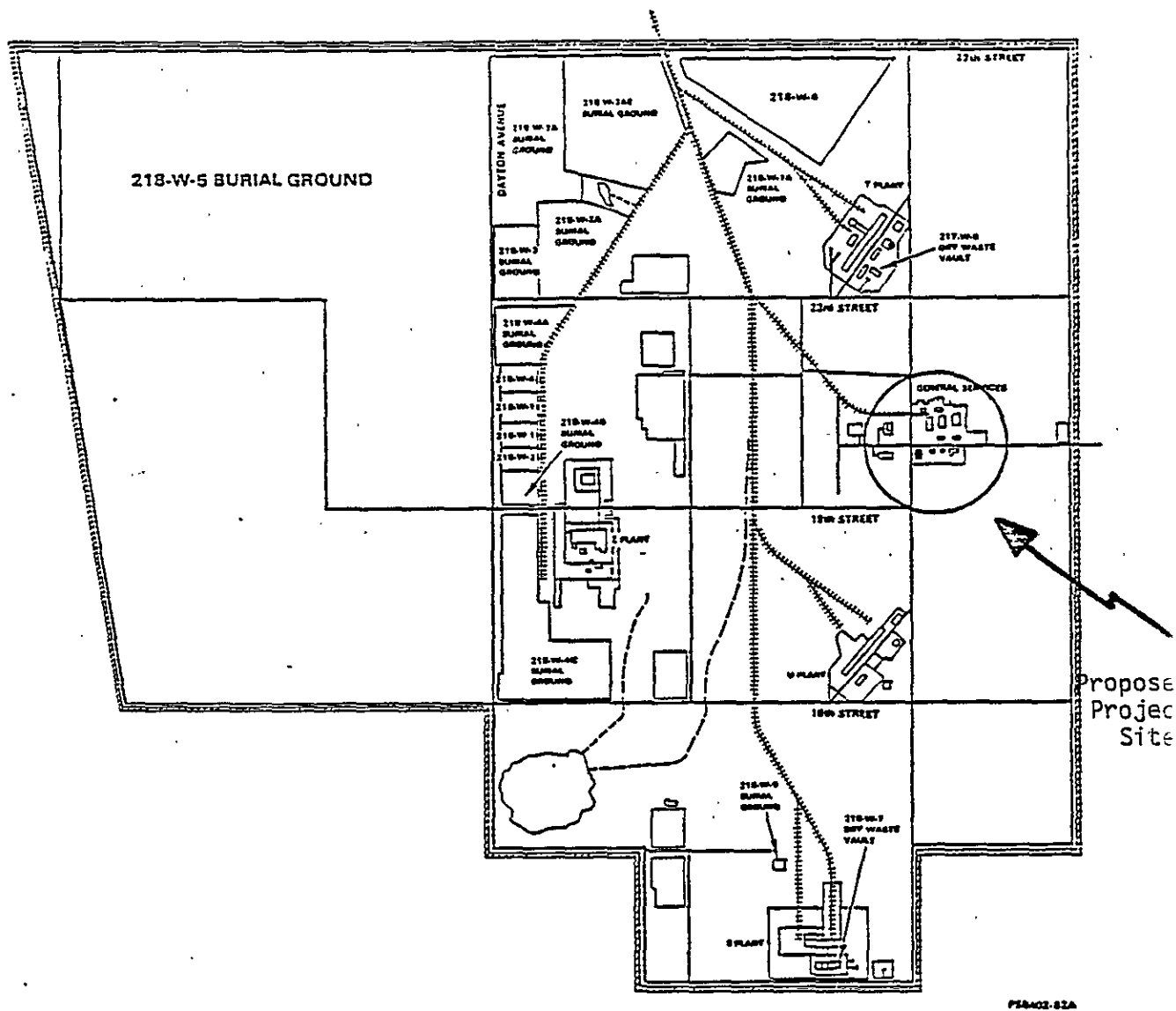


Figure 2. 200 WEST AREA SHOWING THE LOCATION OF THE PROPOSED PROJECT SITE.

Most mammal species known to inhabit the Hanford Site are small, nocturnal creatures, primarily pocket mice and jackrabbits. Large mammals found on the site are deer and elk, although the elk are found almost entirely to the west on the Arid Lands Ecology Reserve. Coyotes and raptors are the primary predators. Only a few species of small birds nest in the Hanford area's steppe vegetation. Semiannual peaks in avian variety and abundance occur during migration seasons. The bald eagle is a winter resident in the 100 Areas, but no species of plant or animal registered as rare, threatened, or endangered are known to depend on the habitats unique to the 200 Areas.

A cultural resources review (HCRC # 87-200-001) has been conducted for the general project site. The results of the review were that no archaeological materials are present in the general site area, and no further cultural resource clearance of the project area is necessary. No cultural resources review will be conducted for this specific project.

4.0 POTENTIAL ENVIRONMENTAL IMPACTS

This section contains a detailed explanation of the potential environmental impacts indicated on the Environmental Checklist (Section 9.0 of this report).

- 1.a. Construction activities will result in equipment exhaust emissions and some dust. Routine laundry operations result in minor amounts of radioactive emissions (calendar year 1988 monitoring data: $<9 \text{ E-07}$ curies of alpha and approximately 1 E-05 curies of beta [Cooney and Thomas, 1989]). No additional emissions are anticipated as a result of the proposed project.
- 1.b. Construction activities will result in the release of some dust and filtered building ventilation exhaust.
- 1.c. Construction equipment will release heat to the atmosphere.
- 2.a. The liquid effluent from the PEDF will continue to be discharged to the 216-W-LC crib.
- 2.b. The liquid effluent from the PEDF may be above ambient temperature. However, no deleterious environmental impacts are anticipated from the additional heat.
- 3.d. Miscellaneous construction scrap will be generated. The scrap will be disposed of in the Central Landfill. Dried filter cake (containing filtered solids, oils and grease) from the wastewater treatment facility will be packaged and disposed of as low-level waste in Hanford Site radioactive waste burial grounds.

- 4.a. The discharge of liquid effluents to the soil column is limited to liquids which are non-hazardous wastes pursuant to the Washington Administrative Code (WAC) 173-303, "Dangerous Waste Regulations". Effluent Monitoring Plans, which will be written and issued prior to project completion or facility startup, are required by Westinghouse Hanford Company guidelines.
- 4.b. Construction equipment will temporarily increase noise levels. Routine operation of the treatment system(s) will increase noise levels in the immediate work area.
- 4.g. Nonrenewable resources in the form of steel and other building materials represent a long-term commitment.
- 4.h. Minor modifications to existing utilities may be required for this project. Electrical power will be provided from existing sources. Ductwork installation will be required to use the PEDF heating, ventilation, and air conditioning (HVAC) system.

5.0 COORDINATION WITH FEDERAL, STATE, REGIONAL, OR LOCAL PLANS

This project provides no known conflicts with federal, state, regional, or local environmental plans. Construction and operation activities will be conducted commensurate with Washington State Department of Ecology and contractor environmental compliance plans.

6.0 ALTERNATIVES

There are plans to replace the PEDF with a new laundry facility called the Decontamination Laundry Facility (DLF). The DLF will be provided by Project B-503, which is a proposed 1990 Line Item Project. In the meantime, the PEDF must continue to operate. Operations are dependent upon the ability of the crib to accept system wastewater. Crib restriction is a continuous problem which has caused effluent backup to occur within the crib system and manhole. No exterior flooding outside the facility has occurred as a result of crib blockage. However, the trench system within the laundry facility has overflowed, flooding the operating floor with contaminated wastewater. Equipment (i.e., rotoclone) has also overflowed causing localized flooding and limited contamination spread inside and outside of the facility. The wastewater has, on occasion, exited the facility, spilling onto the adjacent ground. The backup has grown worse and in 1987 required additional costly crib cleanout to maintain laundry operations. The existing filter system does not function adequately to prevent the crib from plugging up from the accumulation of particulates in combination with oils and greases. No other alternative was identified to provide the necessary filtration for continued operation of the PEDF until the DLF is operational.

7.0 PERSONS/AGENCIES CONTACTED

Westinghouse Hanford Company (WHC)

G. J. Carter	Site Services
G. W. Egert	Environmental Assurance
D. A. Conners IV	Nuclear Facility Safety
R. M. Yanochko	Facilities Projects

8.0 PERMITS/APPROVALS

No permits or approvals from outside agencies are known to be required. Appropriate Westinghouse Hanford Company construction permits (e.g., welding permit, electrical tie-in permit) will be obtained prior to the respective activity.

Additionally, for construction and operation of the proposed facility, Hanford standards and national consensus codes and standards (e.g., Uniform Building Code) as developed by such organizations as the American Concrete Institute, American National Standards Institutes, American Society of Mechanical Engineers, International Conference of Building Officials, and the Institute of Electrical and Electronics Engineers shall be used. All applicable WHC guidelines and DOE orders, prescribed codes, and standards shall be followed. The latest editions of all codes and standards in effect at the start of the design shall be used. Specific codes and standards sections used in the preparation of the conceptual design report shall be identified in that document.

9.0 ENVIRONMENTAL EVALUATION CHECKLIST

See the attached EE checklist.

10.0 REFERENCES

Aldrich, R. C., 1987, Radioactive Liquid Wastes Discharged to Ground in the 200 Areas During 1986, RHO-HS-SR-86-3-4Q-LIQ-P, Rockwell Hanford Operations, Richland, Washington.

Coony, F. M. and S. P. Thomas, Westinghouse Hanford Company Effluent Discharges and Solid Waste Management Report for Calendar Year 1988: 200/600 Areas, WHC-EP-0141-1, Westinghouse Hanford Company, Richland, Washington.

Metcalf, S. G., 1985, Analysis of Hanford Liquid Effluents for Hazardous Waste Compliance: Preliminary Data, RHO-RE-SA-133P, Rockwell Hanford Operations, Richland, Washington.

9.0 ENVIRONMENTAL EVALUATION CHECKLIST

LAUNDRY FACILITY EFFLUENT TREATMENT, PROJECT B-697

Potential Environmental Impacts: A detailed explanation of all "yes" answers is required and is provided in the text.

	CONSTRUCTION YES	NO	OPERATION YES	NO		CONSTRUCTION YES	NO	OPERATION YES	NO
1. <u>AIR</u> : Will the proposed project/activity:					3. <u>LAND USE</u> : Will the project:				
a. Result in any gaseous discharges to the environment? (If yes, provide description, physical/chemical characterization.)	<u>X</u>	—	<u>X</u>	—	a. Conflict with existing zoning or land use?	—	<u>X</u>	—	<u>X</u>
b. Result in any particulate or droplet releases to the atmosphere?	<u>X</u>	—	—	<u>X</u>	b. Be located on the 100-year or 500-year floodplain?	—	<u>X</u>	—	<u>X</u>
c. Result in any thermal discharges to the environment?	<u>X</u>	—	—	<u>X</u>	c. Be located on wetlands?	—	<u>X</u>	—	<u>X</u>
d. Cause any other atmospheric disturbance?	—	<u>X</u>	—	<u>X</u>	d. Generate a volume of solid waste for disposal?	<u>X</u>	—	<u>X</u>	—
e. Violate any federal/state or local emission standards?	—	<u>X</u>	—	<u>X</u>	(1) Hazardous?	—	<u>X</u>	—	<u>X</u>
f. Be subject to federal or state standards of performance for new stationary sources? (WAC 173-400-115)	—	<u>X</u>	—	<u>X</u>	(2) Radioactive?	—	<u>X</u>	—	<u>X</u>
g. Violate any applicable ambient air quality standards (e.g., CO, hydrocarbons, particulates, NO ₂ , etc.)?	—	<u>X</u>	—	<u>X</u>	(3) Other?	<u>X</u>	—	<u>X</u>	—
2. <u>WATER</u> : Will the proposed project/activity:					e. Cause erosion?	—	<u>X</u>	—	<u>X</u>
a. Result in any liquid discharges to the environment? (If yes, provide description, physical/chemical characterization.)	—	<u>X</u>	<u>X</u>	—	f. Be located on the Arid Land Ecology Reserve?	—	<u>X</u>	—	<u>X</u>
b. Discharge heat to surface or subsurface water?	—	<u>X</u>	<u>X</u>	—	g. Conflict with National Environmental Policy Act activities?	—	<u>X</u>	—	<u>X</u>
c. Alter stream flow rates?	—	<u>X</u>	—	<u>X</u>	h. Impact prime or unique farmland?	—	<u>X</u>	—	<u>X</u>
d. Significantly alter natural evaporation rates?	—	<u>X</u>	—	<u>X</u>	4. <u>GENERAL</u> : Will the proposed project/activity:				
e. Release soluble solids to natural waters?	—	<u>X</u>	—	<u>X</u>	a. Be subject to any other federal, state, or local environmental regulations not otherwise addressed in this checklist?	—	<u>X</u>	<u>X</u>	—
f. Interconnect aquifers?	—	<u>X</u>	—	<u>X</u>	b. Increase noise level?	<u>X</u>	—	<u>X</u>	—
g. Require installation of wells?	—	<u>X</u>	—	<u>X</u>	c. Disturb or alter the ground surface potentially impacting known or undiscovered archaeological, historical, or native American religious sites?	—	<u>X</u>	—	<u>X</u>
h. Require review/permit under the Federal National Pollutant Discharge Elimination System?	—	<u>X</u>	—	<u>X</u>	d. Require use of carcinogens, pesticides, or toxic substances?	—	<u>X</u>	—	<u>X</u>
i. Require a Corps of Engineers or other permit?	—	<u>X</u>	—	<u>X</u>	e. Impact wildlife or habitat (terrestrial or aquatic)?	—	<u>X</u>	—	<u>X</u>
j. Violate any state water quality standards (COD, BOD, TOC, DO, TDS, pH, temperatures, etc.)?	—	<u>X</u>	—	<u>X</u>	f. Affect endangered species or critical habitat?	—	<u>X</u>	—	<u>X</u>
k. Require an Oil and Chemical Spill Control and Prevention Program?	—	<u>X</u>	—	<u>X</u>	g. Require long-term commitment of nonrenewable resources?	<u>X</u>	—	—	<u>X</u>
					h. Require new utilities or modifications to existing utilities?	<u>X</u>	—	—	<u>X</u>
					i. Increase offsite radiation dose?	—	<u>X</u>	—	<u>X</u>
					j. Impair recreation?	—	<u>X</u>	—	<u>X</u>
					k. Require modifications to the Sitewide Environmental Surveillance Program?	—	<u>X</u>	—	<u>X</u>